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ABSTRACT

This study identifies some characteristics of mountaineering visitors, climbers' perceptions of the mountain environment, and certain preferred management options affecting both the mountain environment and the mountaineer on Mt. McKinley and adjacent Alaska Range peaks. Approximately 360 registered climbers were asked to complete a 26-item questionnaire as they checked out at the ranger station in Talkeetna (Alaska). Of the climbers responding to the questionnaire, the average age was 32 years and over 90% were male. Climbers reported an average of 10 years mountaineering experience. Within the sample, 67% indicated that they made the summit or completed their route. The majority of the people (66%) were classified as independent climbers, while 32% were part of a guided party, and 2% were solo climbers. Forty-four percent of the climbers reported that trash was not evident on their routes and 4.7% thought trash levels on their climbing route was unacceptably high. In dealing with trash, 92% reported that they carried their trash out. While on their climbing route, 30% of the climbers reported that disposing of human waste was a problem. Solutions proposed by climbers included using more latrines and using crevasses to dispose of waste. Crowding was considered a problem for 32% of the climbers. A slight majority (57%) were against limiting the number of climbers. The study showed that trash, sanitation, and crowding are still within acceptable limits for most Mt. McKinley climbers. (KS)

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MANAGING A SCARCE NATURAL RESOURCE: THE HIGH ALTITUDE MOUNTAINEERING SETTING

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Abstract

Remote, pristine wildland areas can be considered an endangered natural resource. This is of particular concern to the experiential educator since many programs and learning experiences are designed to take place on these types of areas. Interestingly, research has not taken a concerted look into the visitor or user of these areas in terms of who they are, what they prefer in the way of management of these lands, and what motivates an individual to engage in certain experiences typically sought out in these areas. This paper uses a recently conducted study at Mt. McKinley, Alaska to address questions such as who the climber is, what type of managment of the resource are they looking for, and how management actions have actually worked in safegarding the environment while preserving the sought-after experience.

INTRODUCTION

This paper presents one set of findings of a recent study done at Denali National Park. The purpose of this study was to identify some of the characteristics of the mountaineering visitor, the climbers' perception of the mountain environment, and certain preferred management options affecting the mountain environment and/or the mountaineer on Mt. McKinley and adjacent Alaska Range peaks. Although not typically thought of as an experiential education setting, Mt. McKinley does offer an adventure recreation site (i.e., high-altitude mountaineering) of world-wide reputation. To date, the research community has paid little attention to such areas in terms of who the participants are, what types of management issues are at stake and who are the underlying reasons for their visit.

Managing Scarce Natural Resources

For a variety of reasons, the extant literature in experiential education does not usually discuss the management of the natural resource base that often constitute the experiential setting. Moreover, environmental problems that are usually thought of as the most important issues include: land erosion, failing water quality, air pollution, acid rain, toxic wastes, and a degeneration of biodiversity (Stern and Oskamp, 1987: 1043-1086). There exists, however, another environmental and educational issue in the reduction of the amount of available remote lands suitable for adventure and personal testing. This reduction in available and suitable spaces is compounded by a steady growth in the numbers of users wishing to use the resource.

While, perhaps not as "threatening" as the other resource issues listed, from an experiential education perspective, the loss of suitable places to use many of the forms of experiential education can and will be a growing problem. No where is this more true than in pristine mountain

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environments. For not only will more traditional activities of mountaineering, hill-walking and mountain skiing continue to grow in popularity but these activities will be augmented with hang-gliding, parapente flying, micro-light airplanes, helicopter skiing, mountain biking and snow-boarding.

The Mountain Perspective

Since the early 18 Century, mountains have offered a diverse assemblage of natural and semi-natural habitats that have attracted a wide range of recreationists and tourist visitors (Ewert and Hollenhorst, 1990). Dearden and Sewell (1985) suggest that this popularity has grown with the advent of technology such as freeze-dried food, ski-lifts, modern fibers and improved climbing equipment.

Whatever the reasons, either real or putative, the research community is now beginning to understand that there is a strong and undeniable relationship between human behavior and the environment. Models such as the Recreation Opportunity Spectrum (Driver et al., 1987) and Adventure Model (Ewert and Hollenhorst, 1989) have attempted to explain some of the linkage between behavior and sought-after environments.

The purpose of this study was to continue that exploration by investigating the mountaineering setting at Mt. McKinley in Denali National Park, Alaska. The underlying tenet of this work was that by understanding expedition mountaineers and the type of environment they seek out, the land manager and experiential educator will better understand the relationship between the natural environment and human behavior.

THE STUDY

Approximately 360 registered climbers were asked to complete a 26 item questionnaire as they checked out at the ranger station in Talkeetna. Response rate for the questionnaires was close to 100%. Of these, over 98% were people who had climbed or attempted Mt. McKinley with the following breakdowns for McKinley climbers: 84% West Buttress, 6% Muldrow, 4% West Rib, and 3% Cassin.

Since this year's effort was exploratory in nature, the questionnaire was only printed in English. The sampling began in June and was concluded in August and included approximately 36% of the total number of climbers registered to climb McKinley (total=1002).

Who Is The Climber?

Of the climbers responding to the questionnaire, the average age was 32 years old with 29 the most often reported age (range = 18 to 62). Within this group, over 90% were male (90.3%) and just under 10% were female (9.7%).

Climbers reported an average of 10 years of mountaineering experience (10.1 years) with a range of between 1 to 50 years. It should be noted that the sample was skewed toward the low end of number of years of mountaineering with over 40% of the sample reporting six or less years of experience.

Within the sample, 67% indicated that they made the summit or completed their route. Of these, the reasons for their success included (in descending order of importance) (1) preparation, experience, acclimatization, food (31%); (2) good weather (26%); and (3) patience/perserverance (8%). The primary reasons given for not summiting or completing the route included: (1) bad weather (63%) and (2) sickness/medical problems (21%).

The majority of the people (66%) were classified as independent climbers, that is, not a member of a guided party. Of the sample, 32% were part of a guided party and 2% were solo climbers. These data are fairly congruent with those from the total number of climbers on McKinley. In that total sample, 65% of the climbers were non-affiliated with a guided group (independent), 34% were members of a guided party, and 1.5% were climbing solo.

The Mountain Environment

By a wide margin (98%) of the climbers utilized the Southeast Fork Kahiltna landing strip. At that location, 44% indicated that trash was not evident, 51% reported that trash was evident but at an acceptable level, and 4.7% indicated that the level of trash was unacceptably high.

Climbers reported they climbed by a wide variety of routes including: West Buttress (84%), Muldrow (6.3%), West Rib (4.3%), and Cassin (3.3%). Taken as a whole, 33% of the climbers reported that trash was not evident on their routes. On the other hand, 55% reported that trash was evident but at an acceptable level, and 12% of the climbers thought trash levels on their climbing route was unacceptably high. Of all the locations reported to have trash problems, the campsite at 17,200 feet on the West Buttress was the only consistently reported area.

Relative to specific routes, trash was not evident for 47% of the climbers on the Muldrow, 35% of those climbing the West Buttress, and 8% of West Rib climbers. Trash was evident but at an acceptable level for 42% of Muldrow climber, 60% on the Cassin, 54% on the West Buttress, and 69% of those on the West Rib. Levels of trash that were unacceptably high were reported by 11% of the Muldrow climbers, 11% for those on the West Buttress, 40% on the Cassin, and 23% of the West Rib climbers.

In dealing with trash, 92% of all the climbers reported that they carried their trash out. This was followed by dropping it in a crevassee (14%), burning (7%), and burying (1%). A note of caution here, carrying out garbage is the administratively correct thing the do; without an actual behavior observation there is no way to ascertain the accuracy of these "reported" actions. On the other hand, it should be noted that filling out the questionnaires was voluntary and anonymous.

There were a number of suggestions made by climbers on how to handle trash. The more popular ones included: carry it out (27%), education (13%), establishing collection sites and using helicopters to remove it (10%), and burning it (8%). Currently, NPS policy emphasizes a carry-out procedure and burning trash is not allowed.

Regarding human sanitation on the mountain, human waste disposal was not a problem at base camp for 72% of the climbers. Disposing of human waste was a problem that could be dealt with for 25% and was a problem that detracted from their mountaineering experience for 3% of the respondents. While on their climbing route, 30% of the climbers reported that disposing of human waste was a problem with 70% reporting that there was no problem.

One caveat is needed at this point. It was assumed that base camp and landing strip were synonymous and the same location. While logical from a mountaineering perspective this assumption may have not always been true.

Regarding the use of plastic bags for human waste disposal in crevasses 90% of the respondents indicated that they used this method to dispose of waste. It should be noted, however, that the questionnaire did not determine whether climbers used this method all the time or interspersed it with other techniques such as carrying the waste out or digging latrines.

Problems in actually disposing of human waste included: not enough latrines (27%), inadequate directions on how to dispose of human waste (11%), too severe of environment to adequately use plastic bags or build latrines (9%), and latrines inadequately placed (7%). Possible solutions to the human waste problem that climbers listed were: limit number of parties, have more plastic bags available, and enforce a human waste disposal policy.

The possible solutions climbers gave to dealing with human waste included: more latrines (24%) and using crevasses to dispose of waste (12%). Other suggestions such as dump stations and chemical toilets resulted in very low percentages (6% or less). Currently, the Park Service recommends using plastic bags as latrines and than disposing the bags in deep crevasses.

Sociological Factors

Given the international popularity of Mt.McKinley and the increasing use over the past decade, the issue of crowding was considered important to study. Although the size and complexity of Mt. McKinley would seem to preclude a crowding problem, only a few routes receive the majority of use. In this study, 32% of the climbers reported that crowding was a problem with 68% of the climbers indicating that crowding was not a problem on Mt. McKinley. When there were crowding

problems, 41% indicated they occurred at the campsite areas, 19% on the climbing route itself, and 41% indicated that a sense of crowding occurred at both sets of locations.

When broken down by route, the following data were generated. Of the West Buttress climbers, 42% reported crowding at the various campsites, 17% on the route, and 42% at both places. Climbers on the Muldrow reported the following data: 20% indicated crowding at campsites, 60% on the route, and 21% in both sets of locations. Regarding the Cassin climbers, 40% reported feeling crowded at campsites and 60% reported crowding in both campsites and on the route. Interesting, none of the Cassin climbers reported crowding just on the route alone. Of the West Rib climbers, 44% reported crowding at campsites, 33% while on the route, and 22% at both locations.

On the issue of limiting the number of climbers, a slight majority of the respondents were against any limitation (57%-against, 43%-in favor of limitation). These numbers might very well change if climbers were actually faced with the possibility of being denied a climbing opportunity on the more heavily traveled routes of Mt. McKinley. When asked about ways to deal with the crowding problem two responses were the most often reported: establish a permitting system (14%) and limit party size (10%).

It should be noted that the literature is now fairly consistent in differentiating between solitude, user-density, and crowding (Patterson and Hammitt, 1990; Stewart and Carpenter, 1989). While density can be an actual physical measurement (counting the number of climbers in a given location), solitude and crowding are psychologically determined. In the case of crowding, how "crowded" an area is depends, in part, on the expectations and past experience of the individual. In the case of Mt.McKinley, climbers (particularly on the more popular routes) may be expecting to see larger numbers of other climbers and consequently feel less "crowding" eventhough there is a relatively high user-density level. Furthermore, NPS and other literature as well as the climbers own networks serve to accurately describe many of these "crowded" conditions and the time frames when high visitation occurs.

CONCLUSIONS

Drawing conclusions from a one-time snapshot of people and time is usually a risky business. There is some information from this study that bear up under the weight of common sense, experience, and past findings from the literature. First, the demographics from this study's sample are congruent with the general population of climbers visiting Mt. McKinley. To the extent that this is true, it would seem reasonable that they reflect many of the views and demographics of most Mt. McKinley climbers. It should be noted, however, that the study did not sample those people climbing in the earlier part of the season, most notably April and May. The variables of age, gender, years of mountaineering experience do seem in line with the overall climbing population of Mt. McKinley.

Trash and human waste are problems in some areas but are not overwhelming for most of the climbers. Most of solutions offered such as crevasse dumping or helicopter-assisted removal are either not new or represent a significant increase in maintenance and personnel costs.

The study showed that trash, sanitation, and crowding still are within acceptable limits for most Mt. McKinley users. If problems do eventually occur in these or other areas related to the management of the climbing environment, future studies should strive to determine what types of solutions or management options might be most acceptable to the user.

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